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THE JAMAICAN COMPUTER MARKET

COMMERCIAL DIVISION
THE CANADIAN HIGH COMMISSION
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INTRODUCTION

The Jamaican computer industry has resumed its growth path over the past three years, although this growth has largely been confined to repeat purchases by existing users rather than the addition of substantial numbers of new users. Well established companies in the fields of mining, insurance, banking, manufacturing, distribution and data processing are among the primary users of computer systems, however the applications involved are limited and primarily related to financial reporting, accounting or specific requirements of the industry involved. eg. batch processing of life insurance applications. Recently there have been attempts, usually by the larger companies in these industries, to incorporate other functions including inventory management, manufacturing, market analysis and personnel management, and in these instances the impact on performance and profitability has been positive. Computerisation by many Jamaican companies however, usually involves the installation of a few PCs which are used mainly for accounting or word processing functions. This results in these firms having only a peripheral relationship with existing technology.

Main frame computers were introduced to Jamaica during the late 1960s and computer manufacturers provided system support, including application software and training for primarily the mining, insurance and distributive sectors. The introduction of the mini computer in the 1970s, resulted in computerisation by several other sectors including some Government departments, accounting firms and the hotel/tourism industry. New opportunities were provided for the newly trained Jamaican computer personnel to provide support services and to establish data processing and software development facilities. The arrival of the popular micro-computer resulted in the rapid growth of the computer industry, as there were requirements for business systems design and training and several data processing professionals became entrepreneurs and successfully competed with foreign products and services. This period also produced a proliferation of brands on the market and the mushrooming of suppliers of computers and related equipment in response to the demand for personal computers.

The stand alone PC continues to be the primary usage for the wide spectrum of Jamaican businesses, although there is increased utilization of networking, multi-user work stations and of both mini and main frame systems by larger organisations.

This trend is facilitated by the availability of affordable and compatible equipment from a large number of computer dealers.

There continues to be, however, a large number of potential users of various types of computer systems in many sectors of the economy, including the Government, the manufacturing and distributive sectors and the service industries.

High quality, competitive Canadian equipment and software presented as solutions to specific problems as part of a dynamic marketing program are most likely to gain access to the market.

MARKET ANALYSIS

The size of the computer market based on the CIF value of imports in US Dollars, has shown a pattern of fluctuation in the past five to six years. Having risen from approximately US$6 million in 1985 to just under US$10 million in 1986 it fell to US$5.7 million in 1988, before rising again to approximately US$7 million in 1990. The figures are a satisfactory indicator of market size because all computer equipment and supplies are imported.

The major source of computer equipment for Jamaica is the United States. The Canadian share of this market has ranged between 1% and 4% in the last 4 - 5 years. Appendix I provides 1990 import statistics for computer and related equipment.

Major users of computers and related materiel are as follows:

- Financial Institutions
- Utilities
- Manufacturing and Mining
- Distributive Trade
- Data Entry and Processing Services
- Educational Institutions

These sectors all have requirements that can be met by further use of computerization but the requirements vary from sector to sector and also between participants within any sector. It is believed that the majority of the new sales in computers are from upgrades and replacements among existing users. There is significant potential for light users and non users to expand their use of computers but the challenge to a marketer is to be able to assess a potential client's requirements in terms of business applications and submit proposals that compare both cost and benefit in dollar terms.

The majority of computers purchased are PCs but the largest expenditures go for mainframes and minicomputers. Whereas institutions that have mainframes may replace them with larger ones, those that use minicomputers are more likely to expand by adding other minis or even PCs rather than going to mainframes. All the major suppliers of computers are represented in Jamaica.

IBM, ICL, NCR, UNISYS and DEC, offer the full range of hardware demanded in the market as well as the services to back them up.

They offer their own applications software when it fits the clients needs, and source special applications software externally where it suits the requirement better. Other names, such as Hewlett Packard, Compaq and Apple are also represented but in the cases of HP and Compaq, the product offering is a much more limited segment of the parent company's product range.

A wide range of IBM PC clones, super micros, peripherals and software is available also. Names such as Sun Micro systems, Prime, AST, Acer, Epson, Wyse, Okidata, Panasonic, Toshiba, Sco, Microsoft, Novell, Lotus, DBase and many more are represented locally.

The following is an outline of the situation in the various user segments listed above.

Financial Institutions

This sector includes Commercial Banks, Merchant Banks, Building Societies, Insurance Companies and Credit Unions and has shown significant growth in the last six years. There have been increases in the number of institutions, the volume of business, the range of services offered and the level of profits.

Notwithstanding all this there is a great deal of potential for additional services to customers, as well as enhancement of internal efficiencies in order to meet increasing competition. This sector commits the largest expenditures to computing capability and uses the full range of main frames, minicomputer networks, PC networks, mixed networks and stand alone units. They also have highly trained in house staffing for systems analysis and software generation or modification.

The major opportunity for the immediate future will be in the area of on line updating of customer balances, and the linking of all branches to a commonly accessible database. Customers will then be able to transact business at any branch, rather than be restricted to where the account was started. The Bank of Nova Scotia Jamaica Ltd., the country's second largest commercial bank, is in the first phase of this exercise and the second phase should be in place in late 1992.

Automatic Teller Machines (ATMs), have been installed by two commercial banks at some of their branches to offer 24 hour service. It is understandable that until the banks link their branches to a common data base, there is no possibility of having ATMs in shopping centres serving clients of a number of different banks.

Utilities

There has been substantial computerization by the Jamaica Public Service Company Limited, the local electricity supplier. They have for some years now, had their fourteen district offices linked to a common customer database, so that any bill can be paid in any office, inquiries made or duplicate bills generated. Their billing and accounting are done on an IBM 4381, while the materials management system is run on a Prime minicomputer. P.C. networks are also used for corporate planning and engineering functions.
The Jamaica Telephone Company Limited and Jamaica International Telecommunications, wholly owned subsidiaries of Telecommunications of Jamaica Limited (TOJ), are being merged into their parent company. Substantial internal restructuring is taking place in the midst of a capital improvement and expansion program valued at some CDN $300 - 400 million over the next four years. This new thrust initiated by TOJ's parent company Cable and Wireless Ltd., will yield substantial opportunities for computerization to strengthen their operations. The National Water Commission is linked to the government central computer system for billing and accounting. There are opportunities that have not yet been tapped, in office automation, project management, materials management, engineering and maintenance.

Hotels & Tourism

This is a very buoyant area which will see continued healthy growth in the future. Computer software is available for front and back office operations with capacity to automate, for example, the recording and billing of telephone calls made from a guest's room. The latest arrival in the hotel industry is the 'all inclusive' concept for which the standard hotel software does not work. It is believed that opportunities exist to offer solutions in this area.

Manufacturing and Mining

This sector is severely under computerized. The majority of manufacturing firms in Jamaica are very small and their manufacturing and accounting systems are often such that it may require substantial changes in procedures to adapt to a standard software package. Quite frequently the decision makers in these firms are not confident that the shop floor personnel they have will adapt readily to using computers.

People who offer computer solutions will find it necessary to study their clients' operations carefully and play a major role in demonstrating the benefits in dollars that come from investing in a computer system, as against the cost.

Above all, one should avoid getting firms to invest in a less expensive system that does not go far enough in providing solutions to existing problems, as this can be a major disincentive. This sector offers excellent opportunities, but also presents major challenges.

Despite the foregoing, there are firms that are using systems that address their manufacturing requirements such as, IBM's MAPICS, operating on an AS400, or PC networks with Platinum or Macola software. These are usually larger 'process type' industries such as beverage manufacturing, cement, bauxite/alumina and petroleum refining.

The Distributive Sector

At the more sophisticated level, firms in this sector have mini computers or PC networks running software that handles accounting, purchasing, inventory control, order processing, sales analysis, as well as decision support systems.

Many have individual PCs that deal with payroll, and/or other aspects of accounting and generate reports from inputs of 'batched' data. In these cases the real benefits of computer power are not fully recognized and the results obtained at this level of operation often do not inspire further computerization.

For these and new users there are opportunities for sellers who can evaluate a company's organization and its requirements and persuade them as to the operational and financial benefits of systems that can go all the way, but may be adopted on a modular basis.

Government

The Government of Jamaica has substantially increased its use of computers for its central operations as well as in statutory bodies and wholly owned companies. It may be interesting to note that a government owned company, Fiscal Services Limited, is the local representative for Digital Equipment Corporation, with its shareholder being its largest customer. The company offers a range of products to other customers but does not currently act aggressively to penetrate private sector markets. Fiscal Services Ltd., has, however, recently appointed a sub dealer to market its products to the private sector.

Information Processing Services

This is defined as processing of words, alpha/numeric data or graphics, as a service to a third party, locally or overseas.

There are more than forty firms engaged in offering a variety of information processing services on a contract basis to primarily North American and British businesses. There are also many other firms that offer services of the same general category to the local market and a few of the firms offer services to both local and overseas markets. Appendix III, gives a listing of these firms and the services offered to local and foreign markets.

The advantage that the Jamaican industry promotes, is lower manpower costs for skills that produce competitive quality and the use of low cost state of the art, high speed transmission technology, from the new teleport that came into operation in 1988. This allows for on line information processing and quick turnaround of work.

Most of the firms in this industry are locally owned but there are joint ventures between local and overseas firms, as well as wholly foreign owned companies. Joint ventures are considered very attractive as this can offer a mix of good production capability and strong overseas marketing capability.

Jamaica Digiport International is jointly owned by Telecommunications of Jamaica, AT&T and Cable and Wireless and operates the teleport which is located in the Montego Bay Freezone. The teleport offers switched or dedicated services at speeds up to 1.5 megabytes per second inclusive of International Long Distance and 800 toll free service.

Jamaica is promoting this facility very aggressively, because of its foreign exchange earning potential and is projecting high rates of growth. The industry currently has among its clients, many Fortune 500 companies including American Express, McGraw Hill, Time Inc., Readers Digest and Travellers Insurance.

Opportunities undoubtedly exist either for supplying products, investing in the industry or offering marketing services to the firms that need it.

Education

The local campus of the University of the West Indies as well as the College of Arts Science and Technology offer degree and diploma programs respectively in computer science, and data processing is an integral part of their business programs. Many computer marketers, both independents and those linked to well known brands, have training programs that are run for a fee.

There are substantial requirements for expansion of computer usage at high school level. Some schools have programs at GCE O'level in computers. The major inhibiting factor is the inability of the education system to finance computer education infrastructure and manpower. Many schools that have such facilities have been beneficiaries of fund raising events, grants from the business sector and overseas agencies. The fact that this is an area from which a sensitized market can be created, cannot be ignored.

Entering the Jamaican Market

Jamaican importers are willing to carry competitive Canadian products and to penetrate this market it is considered necessary to appoint a stocking distributor or an agent to represent your products. A listing of the more prominent distributors can be found in Appendix II.

CIF quotations in Canadian dollars should accompany product literature and company profile, as freight and insurance costs are necessary in order to determine whether products are competitive.

After initial contact by letter, exporters should follow up with telephone calls and where positive responses are received a visit to the island may be beneficial. The Commercial Division of the High Commission would be pleased to assist with identifying qualified prospects and arranging appointments for business visits.

For the past two years, an annual trade show for information processing has been organised by Financial and Economic Resources Ltd., of 12 Merrick Avenue, Kingston, Jamaica. The Canadian High Commission and one Canadian company participated in this year's show called Hi- Tech '91, and plans are in progress for the staging of Hi-Tech '92 in July 1992. Participation in future Hi-Tech trade shows is recommended for prospective entrants to this market.

Prompt responses to requests for quotation are recommended and goods shipped must conform exactly to specifications. Delivery schedules should be clear, and shipment dates reliable. Letter of Credit terms are recommended for this market.

Computing equipment attracts import duty of 10% on the CIF value and a General Consumption Tax of 10% on the total CIF plus import duty for a total impost of 21%. There are few restrictions on any goods and none on computers and related supplies.

Businesses which invest in computer technology are allowed accelerated depreciation of these assets.

The documents required for imports to Jamaica are:

a) Airway bill or Bill of Lading

b) Caricom Invoice

For assistance and market information on specific products, kindly contact the Commercial Division, Canadian High Commission, P.O. Box 1500, Kingston 10, Jamaica. Telephone: 809-926-1500 Fax: 809-926-1702 Telex: 2130 Answerback BEAVER JA.

Genevieve Vassell
Commercial Officer
Kingston, Jamaica

APPENDIX I

IMPORTS TO JAMAICA OF COMPUTER AND RELATED EQUIPMENT
(BY COUNTRY OF ORIGIN)
JAMAICA - 1990

COMPUTERS:

COUNTRY	AMOUNT	VALUE IN US$
UNITED KINGDOM	75	634,758
CANADA	7	7,179
UNITED STATES	815	2,122,105
PUERTO RICO	2	19,545
TAIWAN PROVINCE	210	345,406
FRANCE	4	35,651
FED. REP. OF GERMANY	14	97,991
ITALY	1	49,226
JAPAN	18	8,010
TOTAL	1146	3,319,871

OTHER AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF, MAGNETIC OR OPTICAL READERS, MACHINES FOR TRANSCRIBING DATA ONTO DATA MEDIA IN CODED FORM AND MACHINES FOR PROCESSING SUCH DATA, NOT ELSEWHERE SPECIFIED OR INCLUDED:

UNITED KINGDOM	101	285,605
CANADA	73	117,895
UNITED STATES	1134	1,888,594
MEXICO	2	3,217
PANAMA	4	1,566
PUERTO RICO	4	5,111
ARGENTINA	6	131,989
BRAZIL	7	325,151
DENMARK	1	609

TAIWAN PROVINCE	63	91,871
FRANCE	72	107,665
FED. REP. OF GERMANY	17	155,386
GUADELOUPE	1	29,416
NETHERLANDS	1	348
ISRAEL	1	993
ITALY	63	158,553
JAPAN	39	235,447
SWEDEN	2	10,331
TOTAL	1591	3,549,747

NOTE: US$1.00 = J$7.11 (1990)

APPENDIX II

COMPUTER RETAIL OUTLETS

COMPUTER - DEALERS

ABACUS COMPUTING LTD., HOTEL OCEANA, 2 KING ST., KINGSTON, TELE 809-924-9476, FAX 924-9476, MR. DENNIS SCOTT, MANAGING DIRECTOR.

ADVANCED INTEGRATED SYSTEMS LTD., 9 KNUTSFORD BLVD., KINGSTON 5, TELE 809-929-6462, FAX 809-929-7690, MR. D. HALSALL, MANAGING DIRECTOR,

CALLDRON COMPUTER SALES & SERVICES LTD., 11A CARLTON CRES., KINGSTON 10, TELE 809-929-0655, FAX 809-929-9783, MR. CLIVE WALDRON, MANAGING DIRECTOR

COMPULEARN LTD., 36 TRAFALGAR ROAD, KINGSTON 10, TELE 809-929-5180, FAX 809-929-5181, MR. GARTH KING.

COMPUMART (JA) LTD., 7 TRINIDAD TERR., KINGSTON 5, TELE 809-929-6879, FAX 809-929-0838, MR. MICHAEL ENNIS, MANAGING DIRECTOR.

COMPUTER SALES & SERVICES LTD., 5 STANTON TERR., KINGSTON 6, TELE 809-927-5553, FAX NO. 809-927-8400, MR. ROGER CHANG, MANAGING DIRECTOR

COMPUTERISED OFC. PRODS., 15 ST. LUCIA WAY, KINGSTON 5, TELE 809-929-3805, FAX 809-929-3015, MS. KATHY MOYSTON-LAWSON, MANAGING DIRECTOR.

COMTRON JA LTD., 89 DUMBARTON AVE., KINGSTON 10, TELE 809-926-4386 FAX 809-926-5547, MR. MILTON MORRISON, MANAGING DIRECTOR.

CORPORATE IDEAS LTD., 13 BARBADOS AVE., KINGSTON 5, TELE 809-020-4506, FAX 809-929-3984, MS. JOAN YOUNG DAVIS, MANAGING DIRECTOR.

ENERGY CONSERVATION RESEARCH LTD., 59 HOPE ROAD, KINGSTON 6, TELE 809-927-0434, FAX 809-927-6602, MR. SYDNEY ABRAHAM, MANAGING DIRECTOR.

GRACE UNISYS (JA) LTD., 32 TRAFALGAR ROAD, KINGSTON 10, TELE 809-926-3465, FAX 809-929-8099, MR. AINSWORTH COUSLEY, MANAGING DIRECTOR.

HU'S ELECTRONIC & OFFICE SUPPLIES LTD., 53 CHURCH ST., KINGSTON TELE 809-922-0185, MR. HUBERT HEADLAM, MANAGING DIRECTOR.

IBM WORLD TRADE CORP., 52 KNUTSFORD BLVD., KINGSTON 5, TELE 809-926-3170, FAX 809-926-3225, MR. DEREK ELDER, GENERAL MANAGER.

INNOVATIVE SYSTEMS LTD., VILLAGE PLAZA, KINGSTON 10, TELE 809-929-7261, FAX 809-929-7347, MR. STEPHEN CHANG, MANAGING DIRECTOR.

INTERFACE SYSTEMS LTD., 15 CALEDONIA AVE., KINGSTON 5, TELE 809-929-2139, FAX 809-929-2840, MR. CHIN-LOY, MANAGING DIRECTOR.

INTERNATIONAL COMPUTERS LTD., 2 OXFORD ROAD, KINGSTON 5, TELE 809-926-7567, FAX 809-929-6645, MR. MERVYN EYRE, GENERAL MANAGER.

ISLAND MICROSYSTEMS LTD., 6 TRINIDAD TERRACE, KINGSTON 5, TELE 809-926-7193, FAX 809-929-6283, MR. K. MANISON, MANAGING DIRECTOR.

JAMAICA COMPUTER SOCIETY, 2 3/4 RUTHVEN ROAD, KINGSTON 10, TELE 809-929-5307, FAX 809-929-5468, MR. WINSTON ATKINSON.

MERCURY INFO SYSTEMS LTD., 3 BROMPTON ROAD, KINGSTON 5, TELE 809-927-7220, FAX 809-978-2372, MR. GEORGE WHYTE, MANAGING DIRECTOR.

NCR JAMAICA LTD., 13 CALEDONIA AVE., KINGSTON 5, TELE 809-926-3490, 926-7621, FAX 809-926-7621, MR. SALVATORE PROVENZA, MANAGING DIRECTOR.

NATIONAL BUSINESS MACHINES, 9 DUMFRIES ROAD, KINGSTON 5, TELE 809-929-6747, FAX 809-929-6793, MR. OTIS FISHER, MANAGING DIRECTOR.

POINT OF SALE JA LTD., 73 HALF WAY TREE ROAD, KINGSTON 10, TELE 809-929-3443, FAX 809-929-3449, MR. WARREN NELSON, MANAGING DIRECTOR.

PRODUCTIVITY AIDS LTD., 9A CARGILL AVE., KINGSTON 10, TELE 809-926-8541, FAX 809-929-6222, MR. IVAN CAMPBELL, MANAGING DIRECTOR.

RELATED COMPUTER SERVICES LTD., 45 UNION ST., MONTEGO BAY, ST. JAMES, TELE 809-952-6029, FAX 809-952-6448, MR. NEIL WILLIAMS, MANAGING DIRECTOR.

RIC-CELL DISTBRS LTD., 65 3/4 HALF WAY TREE ROAD, KINGSTON 5, TELE 809-929-2657, FAX 809-929-9489, MR. RICHARD McCREATH, MANAGING DIRECTOR.

SOFCOMM MICROSYSTEMS LTD., 8 CARGILL AVE., KINGSTON 10, TELE 809-929-1849, FAX 809-929-2280, MR. J. SOARES, MANAGING DIRECTOR.

SOFTWARE TRAINING CENTRE LTD., 3 RICHINGS CRES., KINGSTON 6, TELE 809-927-4633, FAX 809-988-2105, MR. DAVID REID, MANAGING DIRECTOR.

WTG/APTEC SYSTEMS LTD., 25 DOMINICA DRIVE, KINGSTON 5, TELE 809-929-9250, FAX 809-929-8269, MR. PATRICK TERRELONGE, MANAGING DIRECTOR, MS. KAREN DELAMOTT, SALES AND MARKETING MANAGER

WORLD TELECOM JAMAICA LTD., 7 TANGERINE PLACE, KINGSTON 10, TELE 809-926-0031, FAX 809-926-0031, MR. DON STOCKHAUSE, DIRECTOR

DATA PROCESSING EQUIPMENT & SUPPLIES

ABACUS COMPUTING LTD., OCEANA HOTEL, 2 KING STREET, KINGSTON, TELE 809-924-9476, FAX 809-924-9476, MR. DENNIS SCOTT, MANAGING DIRECTOR

RICHARD BOOR LTD., 4 STRATHAIRN AVE., KINGSTON 10, TELE 809-926-7383, FAX 809-926-7344, MR. RICHARD BOOR, MANAGING DIRECTOR.

BUSINESS TECHNOLOGY SYSTEMS LTD., 24 TRAFALGAR ROAD, KINGSTON 5, TELE 809-929-4551, FAX 809-929-0111, MR. L. TAYLOR, MANAGING DIRECTOR.

COMPUTER ENVIRONMENTAL SOLUTIONS LTD., 6 HILLVIEW AVE., KINGSTON 10, TELE 809-926-2935, MR. DOUGLAS DAY, MANAGING DIRECTOR.

CORPORATE IDEAS LTD., 13 BARBADOS AVE., KINGSTON 5, TELE 809-929-4506, FAX 809-929-3984, MS. JOAN YOUNG-DAVIS, MANAGING DIRECTOR.

GORMANN CORP LTD., 3 NORTH AVE., KINGSTON 5, TELE 809-929-1740 FAX 809-929-1740, MR. JENNINGS GORDON, MANAGING DIRECTOR.

GRACE UNISYS (JA) LTD., 32 TRFALGAR ROAD, KINGSTON 10, TELE 809-926-3465, 926-3466, 926-3467, FAX 809-929-8099, MR. AINSWORTH COUSLEY, MANAGING DIRECTOR.

IBM WORLD TRADE CORP., 52 KNUTSFORD, BLVD., KINGSTON 5, TELE 809-926-3170, 926-3200, 926-3220, FAX 809-926-3225, MR. DEREK ELDER, GENERAL MANAGER.

INTERNATIONAL COMPUTERS LTD., 2 OXFORD ROAD, KINGSTON 5, TELE 809-926-7567, FAX 809-929-6645, MR. MERVYN EYRE, GENERAL MANAGER.

MEDITRON LTD., 3 TANGERINE PLACE, KINGSTON 10, TELE 809-926-7745 FAX 809-924-6120, MR. CLYDE CUNNINGHAM, MANAGING DIRECTOR.

MERCURY INFO SYSTEMS LTD., 3 BROMPTON ROAD, KINGSTON 5, TELE 809-927-7220, FAX 809-978-2372, MR. GEORGE WHYTE, MANAGING DIRECTOR.

MOORE BUSINESS FORMS CARIBBEAN LTD., 29 SLIPE PEN ROAD, KINGSTON 5, TELE 809-922-5857, 922-5916, FAX 809-922-3866, MR. DESMOND VALENTINE, MANAGING DIRECTOR.

NCR JAMAICA LTD., 13 CALEDONIA AVE., KINGSTON 5, TELE 809-926-3490, 926-7261, 929-6227, FAX 809-926-7621, MR. SALVATORE PROVENZA, MANAGING DIRECTOR.

NATIONAL BUSINESS MACHINES, 9 DUMFRIES ROAD, KINGSTON 5, TELE 809-929-6747, 929-6793, FAX 809-929-6793, MR. OTIS FISHER, MANAGING DIRECTOR.

POINT OF SALE (JA) LTD., 73 HALF WAY TREE ROAD, KINGSTON 10, TELE 809-929-3443, FAX 809-929-3449, MR. WARREN NELSON, MANAGING DIRECTOR.

SOFCOMM MICROSYSTEMS LTD., 8 CARGILL AVE., KINGSTON 10, TELE 809-929-1849, 929-2280, 929-5682, FAX 809-929-2280, MR. L. J. SOARES, MANAGING DIRECTOR.

THREE M (3M) INC., 14½ RETIREMENT ROAD, KINGSTON 5, TELE 809-926-4054, 926-4055, 926-4055, FAX 809-929-5862, MR. FRED LANGLEY, MANAGING DIRECTOR.

WTG/APTEC SYSTEMS LTD., 25 DOMINICA DRIVE, KINGSTON 5, TELE 809-929-9250 FAX 809-929-8296, MR. PATRICK TERRELONGE, MANAGING DIRECTOR.

WELLBAR LTD., 13 BARBADOS AVE., KINGSTON 5, TELE 809-929-6040 FAX 809-929-3984, MR. GARFIELD DAVIS, MANAGING DIRECTOR.

WORLD TELECON JAMAICA LTD., 7 TANGERINE PLACE, KINGSTON 10, TELE 809-926-0031, FAX 809-926-0031, MR. DON STOCKHAUSEN.

APPENDIX III

DATA PROCESSING SERVICES: COMPANIES/CONTACTS

1. Mr. Alfrico D. Adams
   Managing Director
   Adams Computing Ltd.
   8 Hope Road
   Kingston 10
   Tel. 809-926-0331
   Fax 809-929-7169

2. Mr. P. Terrelonge
   Managing Director
   WTG/APTEC Systems Ltd
   25 Dominica Drive
   Kingston 5
   Tel. 809-929-9250
   Fax 809-929-8296

3. Mr. Thomas Frazier
   General Manager
   Bay Telemarketing Agency Ltd
   Data Entry 1
   Montego Bay Freezone
   Monteog Bay
   Tel 809-951-6229/951-6235
   Fax 809-951-6236

4. Mr. Rick Shoeman
   Manager
   CFL Ltd
   KIW Complex
   Montego Bay P.O.
   Tel 809-952-7141
   Fax 809-951-8888

5. Mrs. Brenda Francis
   Managing Director
   Central Data Processing Inc. (Ja.) Ltd.
   6 Trinidad Terrace
   Kingston 5
   Tel. 809-929-2797

6. Mr. Milton Cameron
   Managing Director
   Compro Ltd.
   26 Old Hope Road
   Kingston 5
   Tel. 809-929-5158
   Fax 809-929-5158

7. Mr. Garth King
Managing Director
Computer Business Systems Ltd.
7 Waterworks Road
Kingston 8
Tel. 809-925-8600
Fax 809-925-8115

8. Mr. Herman Fennell
Managing Director
Computer Service & Programming Ltd.
14 Eureka Road
Kingston 5
Tel. 809-926-1460
Fax 809-929-7371

9. Ms. C. Mullings
Manager
Data-Cap Processing Ltd
83 Slipe Road
Kingston 5
Tel 809-926-8480
Fax 809-929-8399

10. Mr. Stanley Greig
Managing Director
Data Conversions Ltd
9 Tangerine Place
Kingston 10
Tel 809-926-7279

11. Ms. Carol Matthews
Managing Director
Data Entry Services Ltd.
7 Tangerine Place
Kingston 10
Tel. 809-929-3757

12. Mr. Leonard Rosemann
Operations Manager
Data Export Co. Ltd.
P.O. Box 303
Montego Bay Freeport
Montego Bay P.O.
Tel 809-952-4804
Fax 809-952-1547

13. Mr. Gilbert Morgan
Managing Director
Data Key (Ja.) Ltd.
4 Duke Street
Kingston
Tel. 809-922-2505
Fax 809-922-4517

14. Mr. Max Lambie
Managing Director
Datacon Associates (Lambie & Co.)
26 Haining Road
Kingston 5
Tel. 809-929-2040
Fax 809-929-8480

15. Mr. John Ross
Chairman
Data Graphics Ltd.
26 Dunrobin Avenue
Kingston 20
Tele 809-924-0027
Fax 809-924-0031

16. Mr. C. Hamilton
Dataprox Computer Systems Ltd.
17 Tangerine Place
Kingston 10
Tele 809-926-4954/929-8739
Fax 809-926-4608

17. Mr. Royland Williams
Manager
Datatron Jamaica Ltd
9 Eureka Crescent
Kingston 5
Tel 809-929-5335/929-7928
Fax 809-929-7928

18. Mr. Richard Donaldson
Manager
Digital Logics Management Information Services
57 University Crescent
Kingston 6
Tel 809-977-0239

19. Mr. Peter D. Chin
Chairman
DPK (Jamaica) Ltd
Shop 30, Clock Tower Plaza
Half Way Tree, Kingston 10
Tel 809-929-3639
Fax 809-929-1697

20. Mr. David Shaw
Managing Director
Infoserv/Datatec/Datrex/Ltd
120 Red Hills Road
Kingston 19
Tel. 809-925-8487

21. Mr. Ainsworth Cousley
Managing Director
Grace Unisys (Ja.) Ltd.
32 Trafalgar Road, Kingston 10
Tel. 809-926-3465/3466/3467
Fax 809-929-8099

22. Ms. Shirley Harper
Managing Director
Harper & Harper Ltd.
75 Hope Road
Kingston 6
Tel. 809-927-6892
Fax 809-978-1871

23. Mr. Derek Elder
General Manager
IBM World Trade Corp
52 Knutsford Boulevard
Kingston 5
Tel. 809-926-3170
Fax 809-926-3225

24. Ms. Vanessa Wright
Manager
International Data Imaging Services Inc.
Montego Bay Freezone
P.O. Box 1377, Montego Bay
Tel 809-951-6297
Fax 809-951-6298

25. Mr. Dale Lurch
Managing Director
Information Systems Ltd.
25 Dominica Drive
Kingston 5
Tel. 809-929-6542
Fax 809-929-6573

26. Mr. Trevor Blair
Managing Director
Interface Consultants Ltd.
15 Caledonia Avnue
Kingston 5
Tel. 809-929-2139
Fax 809-929-2840

27. Mr. Mervyn Eyre
General Manager
International Computers Ltd.
2 Oxford Road
Kingston 5
Tel. 809-926-7567
Fax 809-929-6645

28. Mr. Neil Hendrickson
Jamerican Associates
86 Church Street
Kingston
Tele 809-922-1070

29. Mr. Wendell Smith
Manager
Management Control Systems Ltd.
The Towers, 9th Floor,
25 Dominica Drive
Kingston 5
Tele 809-929-3763

30. Mr. Hugh Wilson
Manager
Mapsurv Ltd/E.H.D.
2½ Kensington Crescent
Kingston 5
Tele 809-926-4038/926-8056

31. Mr. George Whyte
Managing Director
Mercury Information Systems Ltd.
3 Brompton Road
Kingston 5
Tel. 809-927-7220
Fax 809-978-2372

32. Mr. Clinton Barrett
Managing Director
Microlink Data Systems Ltd.
7B Caledonia Road
Mandeville, Manchester
Tel. 809-962-2914
Fax 809-962-2762

33. Mr. Allister Cooke
Port Computer Services Ltd
3rd Street, New Port West
Kingston
Tele 809-923-7022
Fax 809-923-4233

34. Mrs. Brenda Francis
Quality Keypunch Services Ltd
6 Trinidad Terrace
Kingston 5
Tele 809-809-926-6597

35. Mr. Ainsworth R. Edwards
Managing Director
Sherwood Data Corporation Ltd.
56 Main Street
Santa Cruz P.O.
St. Elizabeth
Tel 809-966-2372/926-2309
Fax 809966-2372

36. Ms. Shirley Harper
Managing Director
Shirope Ltd.
75 Hope Road
Kingston 6
Tel. 809-927-6892
Fax 809-978-1871

37. Mr. Al Adams
Smada Consultants Ltd.
8 Hope Road
Kingston 10
Tel. 809-926-0331
Fax 809-929-7169

38. Mr. David Reid
Managing Director
Software Training Centre Ltd.
3 Richings Crescent
Kingston 6
Tel. 809-927-4633
Fax 809-988-2105

39. Mr. Arthur Hall
Manager
Telemar Jamaica Ltd
31 Beechwood Avenue
Kingston 5
Tel 809-926-7829/929-2160

40. Ms. Vilma Gregory
Managing Director
Vilcomm Services International Ltd.
12 Trinidad Terrace
Kingston 5
Tel. 809-929-2900

INFORMATION PROCESSING SERVICES OFFERED IN JAMAICA

FOR OVERSEAS CLIENTS:

- COMPUTER AIDED DESIGN
- CUSTOM SOFTWARE GENERATION
- TEXT KEYING
- TEXT EDITING
- IMAGE PROCESSING
- TELEMARKETING
- MAILING LISTS
- CODING
- LITIGATION SUPPORT
- ELECTRONIC PUBLISHING
- BATCH PROCESSING WORK

FOR LOCAL CLIENTS:

- PAYROLL PREPARATION
- ACCOUNTS RECEIVABLE/PAYABLE
- INVENTORY CONTROL
- SALES ANALYSIS
- JOB COSTING
- CUSTOM SOFTWARE GENERATION
- SYSTEMS ANALYSIS

APPENDIX IV

DATA SYSTEM - CONSULTANTS & DESIGNERS

ABACUS COMPUTING LTD., HOTEL OCEANA, 2 KINGS STREET, TELE 809-924-9476, FAX 809-924-9476, MR. DENNIS SCOTT, MANAGING DIRECTOR

ADVANCED DIGITAL SERVICES LTD., 53 KNUTSFORD BLVD., KINGSTON 5, TELE 809-926-3160, FAX 929-7388, MR. GARY LEE-SIN, V. PRESIDENT

COMPUTER ENVIRONMENTAL SOLUTIONS LTD., 6 HILLVIEW AVE., KINGSTON 10, TELE 809-926-2935, MR. DOUGLAS DAY, MANAGING DIRECTOR.

DATAMAC SOFTWARE SYSTEMS LTD., 4 TREVENNION PARK ROAD, KINGSTON 5, TELE 809-929-0006, MR. DON MCDOWELL, MANAGING DIRECTOR

DATAPROX COMPUTER SYSTEMS LTD., 17 TANGERINE PLACE, KINGSTON 10, TELE 809-926-4608, FAX NO. 809-926-4608, MR. SEZVIN HAMILTON, MANAGING DIRECTOR.

INTERFACE CONSULTANTS LTD., 15 CALEDONIA AVE., KINGSTON 5, TELE 809-929-2139, FAX 809-929-2840, MR. TREVOR BLAIR, MANAGING DIRECTOR

INTERFACE SYSTEMS LTD., 15 CALEDONIA AVE., KINGSTON 5, TELE 809-929-2139, FAX 809-929-2840, MR. T. CHIN-LOY, MANAGING DIRECTOR

MERCURY INFO SYSTEMS LTD., 3 BROMPTON ROAD, KINGSTON 5, TELE 809-927-7220, FAX 809-978-2372, MR. GEORGE WHYTE.

SOFTWARE SOLUTIONS (JA) LTD., 58 HOPE ROAD, KINGSTON 6, TELE 809-927-7041, FAX 809-978-1266, MR. LESTER LEVY, MANAGING DIRECTOR.

VALLEY COMPUTERS LTD., 29 OLD HOPE ROAD, KINGSTON 5, TELE 809-929-8494, FAX 809-929-6689, MRS. MITCHELE STEWART, MANAGING DIRECTOR.

WTG/APTEC SYSTEMS LTD., 25 DOMINICA DRIVE, KINGSTON 5, TELE 809-929-9250, FAX 809-929-8296, MR. T. TERRLONGE, MANAGING DIRECTOR.

APPENDIX V

BASIC FACTS - JAMAICA

POPULATION:	2.5 MILLION
AREA:	10,946.9 sq. km/4,243 sq mls.
CAPITAL:	KINGSTON
EXCHANGE RATE:	US$1.00 = J$19
CLIMATE:	MAY - OCTOBER 35° C NOVEMBER - APRIL 30° C
PER CAPITA INCOME:	APPROX. J$7,600 (1989)
TIME:	EST, GMT-5
LANGUAGE:	ENGLISH
HEAD OF GOVERNMENT:	HON. MICHAEL MANLEY, PRIME MINISTER

USEFUL ADDRESSES IN JAMAICA

COMMERCIAL DIVISION, THE CANADIAN HIGH COMMISSION, 1ST FLOOR MUTUAL SECURITY BANK BUILDING, P.O. BOX 1500, 30 KNUTSFORD BOULEVARD, KINGSTON 10 TELE 809-926-1500 FAX 809-926-1702

JAMAICA CHAMBER OF COMMERCE, 7 EAST PARADE, KINGSTON, TELE 809-922-0150-1

JAMPRO LTD., (JAMAICA'S ECONOMIC DEVELOPMENT AGENCY), 35 TRAFALGAR ROAD, KINGSTON 10, TELE 809-929-9450

THE BANK OF NOVA SCOTIA JAMAICA LTD., SCOTIA CENTRE, DUKE & PORT ROYAL STREET, P.O. BOX 1709, KINGSTON, TELE 809-922-1000

CIBC JAMAICA LTD., VICTORIA MUTUAL BUILDING, 53 KNUTSFORD BOULEVARD, KINGSTON 5, TELE 809-922-2960

JAMAICA PEGASUS HOTEL, 81 KNUTSFORD BOULEVARD, KINGSTON 5, TELE 809-926-3690

THE WYNDHAM HOTEL, 77 KNUTSFORD BOULEVARD, KINGSTON 5, TELE 809-926-5430

THE COURTLEIGH HOTEL, 31 TRAFALGAR ROAD, KINGSTON 10, TELE 809-926-8174

TERRA NOVA HOTEL, 17 WATERLOO ROAD, KINGSTON 10, TELE 809-926-2211

BUSINESS HOURS:

Business hours vary by company but generally are 8:30a.m. to 5:00p.m., Monday to Friday with an hour for lunch. Banking hours are 9:00a.m. to 2:00p.m. Monday to Thursday and 9:00am - 3:00p.m. on Friday.

ELECTRICITY:

Domestic electricity is supplied at 110 volts, 50 cycles. End user requirements for other voltages than 110 volts are accommodated on request. A voltage standardization programme is being carried out and this will establish a distribution voltage of 24 KV.

PUBLIC HOLIDAYS:

There are nine public holidays:

New Years Day	January 1
Ash Wednesday	Variable
Good Friday	Variable
Easter Monday	Variable
Labour Day	May 23
Independence Day	First Monday in August
National Heroes Day	Third Monday in October
Christmas Day	December 25
Boxing Day	December 26